

ABSTRACT

[00144] Bone marrow (BM) is the major organ where immune cells are derived. Homeostasis in the BM is maintained by inter- and intra-cellular interactions by the various subsets of BM cells. The present invention discloses the cloning of a new cDNA from stimulated BM stromal cells that was retrieved with a probe specific for the neurokinin-1 (NK-1) receptor. The cloned cDNA was designated 'Hematopoietic Growth Factor Inducible Neurokinin-1 type' (HGFN) gene based on its expression in differentiated hematopoietic cells. Hence, the present invention provides a novel gene, HGFN, which encodes a protein receptor that is involved in the regulation of hematopoietic proliferation and differentiation. The protein of the present invention may be involved as a central mediator of white blood cell, progenitor, differentiation, and therefore, may be useful in the prevention and treatment of lymphoproliferative syndromes such as B-cell related maladies, including but not limited to acute and chronic myeloid and lymphocytic leukemia as well as the B-cell subtype of Hodgkin's and non-Hodgkin's lymphomas.